## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An inverter control device for driving a motor, including a rectifying circuit for converting an AC power from an AC power source into a DC power, and an inverter for converting the DC power from the rectifying circuit into an AC power with a desired frequency and a desired voltage to supply the converted AC power into a motor, the rectifying circuit including a diode bridge, and a reactor of a predetermined small capacity connected to the AC input side or DC output side of the diode bridge, the inverter control circuit having a capacitor with a predetermined small capacity for absorbing the regenerative energy of the motor between DC buses of the inverter, the inverter control device comprising:

a motor voltage command generator that generates a voltage command of each phase of the motor on the basis of a speed command of the motor given from outside;

a ~~PN~~ voltage detector that detects a DC voltage of the inverter;

a ~~PN~~ voltage corrector that compares the inverter DC voltage detected by the ~~PN~~ voltage detector with a predetermined reference value, and ~~calculating~~ calculates a ~~PN~~ voltage correction coefficient from the result of the comparison,

a first motor voltage command corrector that corrects the each phase voltage command, and

a second motor voltage command corrector that corrects again the each phase voltage command corrected by the first motor voltage command corrector,

wherein the first motor voltage command corrector corrects the each phase voltage command by multiplying the each phase voltage command obtained from the first motor voltage command generator by the ~~PN~~ voltage correction coefficient produced from the ~~PN~~ voltage corrector, and

the second motor voltage command corrector corrects again the each phase voltage command once corrected by the first motor voltage command corrector, only when any one of the phase voltage commands corrected by the first motor voltage command corrector is larger than the inverter DC voltage, by multiplying the voltage command of each phase corrected by the first motor voltage command corrector by the

inverter DC voltage value, and dividing the product of the multiplication by the maximum value of the phase voltage commands corrected by the first motor voltage command corrector.

2. (Currently Amended) The inverter control device according to claim 1, wherein the ~~PN~~-voltage corrector calculates the ~~PN~~-voltage correction coefficient by dividing the predetermined reference value by the detected DC voltage when the detected DC voltage is not zero, and sets the maximum value of the predetermined ~~PN~~-voltage correction coefficient to the ~~PN~~-voltage correction coefficient when the detected DC voltage is below zero.

3. (Original) The inverter control device according to claim 1, wherein an inverter operating frequency is set so as to prevent the inverter operating frequency from stationary fixing in a frequency range having a predetermined margin around the resonant frequency which is a frequency of an even number multiple of AC power source frequency.

4. (Original) The inverter control device a ccording to claim 1, wherein combination of the small capacity reactor and the small capacity capacitor is determined so that the resonant frequency of the small capacity reactor and the small capacity capacitor is larger than 40 times of the AC power source frequency.

5. (Original) The inverter control device according to claim 1, wherein the capacity of the small capacity capacitor is determined so that the maximum value of the DC voltage elevating when the inverter is stopped is smaller than withstand voltages of electric devices included in peripheral circuits of the inverter.

6. (Original) The inverter control device according to claim 1, wherein the carrier frequency of the inverter is determined so that a power factor value of the AC power source is a predetermined value.

7. (Currently Amended) An inverter control device for driving a motor, including a rectifying circuit for converting an AC power from an AC power source into a DC power, and an inverter for converting the DC power from the rectifying circuit into an AC power with a desired frequency and a desired voltage to supply the converted AC power into a motor, the rectifying circuit including a diode bridge and a reactor with a predetermined small capacity connected to the AC input side or DC output side of the diode bridge, the inverter control device having a capacitor with a predetermined small capacity for absorbing the regenerative energy of the motor between DC buses of the inverter, the inverter control device comprising:

a motor voltage command generator that generates a voltage command of each phase of the motor on the basis of a speed command of the motor given from outside;

a ~~PN~~-voltage detector that detects a DC voltage of the inverter;

a ~~PN~~-voltage corrector that compares the inverter DC voltage detected by the ~~PN~~-voltage detector with a predetermined reference value, and ~~calculating~~ calculates a ~~PN~~-voltage correction coefficient from the result of the comparison;

a first motor voltage command corrector that corrects the voltage command of each phase by multiplying the each phase voltage command obtained from the first motor voltage command generator by the ~~PN~~-voltage correction coefficient produced from the ~~PN~~-voltage corrector,

a saturation voltage operating section that calculates a reference saturation voltage by multiplying the inverter DC voltage by a value of 1 or more;

a second motor voltage command corrector that corrects again the voltage command of each phase corrected by the first motor voltage command corrector, only when any one of the phase voltage commands calculated by the first motor voltage command corrector is larger than the reference saturation voltage calculated in the saturation voltage operating section, by multiplying the voltage command of each phase value corrected by the first motor voltage command corrector by the reference saturation voltage calculated in the saturation voltage operating section, and dividing the product of the multiplication by the maximum value of the phase voltage commands corrected by the first motor voltage command corrector; and

a motor voltage command maximum value limiting section that determines the voltage command of each phase as the inverter DC voltage when the voltage command of each phase corrected by the second motor voltage command corrector is larger than the inverter DC voltage.

8. (Original) The inverter control device according to claim 7, wherein the reference saturation voltage obtained from the saturation voltage operating section is variable with the speed command of the motor given from outside.

9. (Currently Amended) The inverter control device according to claim 7, wherein the ~~PN~~-voltage corrector calculates the ~~PN~~-voltage correction coefficient by dividing the predetermined reference value by the detected DC voltage when the detected DC voltage is not zero, and sets the maximum value of the predetermined ~~PN~~-voltage correction coefficient to the ~~PN~~-voltage correction coefficient when the detected DC voltage is below zero.

10. (Original) The inverter control device according to claim 7, wherein an inverter operating frequency is set so as to prevent the inverter operating frequency from stationary fixing in a frequency range having a predetermined margin around the resonant frequency which is a frequency of an even number multiple of AC power source frequency.

11. (Original) The inverter control device a ccording to claim 7, wherein combination of the small capacity reactor and the small capacity capacitor is determined so that the resonant frequency of the small capacity reactor and the small capacity capacitor is larger than 40 times of the AC power source frequency.

12. (Original) The inverter control device according to claim 7, wherein the capacity of the small capacity capacitor is determined so that the maximum value of the DC voltage elevating when the inverter is stopped is smaller than withstand voltages of electric devices included in peripheral circuits of the inverter.

13. (Original) The inverter control device according to claim 7, wherein the carrier frequency of the inverter is determined so that a power factor value of the AC power source is a predetermined value.

14. (Original) An air conditioner comprising:

a compressor for compressing a refrigerant;

a motor for driving the compressor; and

an inverter control device according to claim 1 for converting the DC power from the rectifying circuit into the AC power with a variable voltage and a variable frequency to supply the converted AC power into the motor.

15. (Original) An air conditioner comprising:

a compressor for compressing a refrigerant;

a motor for driving the compressor; and

an inverter control device according to claim 7 for converting the DC power from the rectifying circuit into the AC power with a variable voltage and a variable frequency to supply the converted AC power into the motor.